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1992

Nebraska Summary: S129 Massey Ferguson 396

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SUMMARY OF OECD TEST 1386—NEBRASKA SUMMARY 129

MASSEY FERGUSON 396 DIESEL

12 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Fuel Consumption			Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—628 rpm)					
88.4 (65.9)	2200	5.37 (20.33)	0.424 (0.258)	16.45 (3.24)	
Standard Power Take-off Speed (541 rpm)					
82.6 (61.6)	1896	4.84 (18.31)	0.409 (0.249)	17.06 (3.36)	Air temperature
VARYING POWER AND FUEL CONSUMPTION					
88.4 (65.9)	2200	5.37 (20.33)	0.424 (0.258)	16.45 (3.24)	68°F (20°C)
75.9 (56.6)	2226	4.80 (18.18)	0.441 (0.268)	15.80 (3.11)	Relative humidity
57.3 (42.7)	2238	3.92 (14.83)	0.478 (0.290)	14.62 (2.88)	41%
38.6 (28.8)	2250	3.14 (11.88)	0.569 (0.346)	12.28 (2.42)	Barometer
19.2 (14.4)	2264	2.34 (8.87)	0.852 (0.518)	8.20 (1.61)	29.1" Hg (98.5 kPa)
.....	2300	1.67 (6.33)	

Maximum Torque 253.9 lb. ft (344.2 Nm) at 1386 rpm

Maximum Torque Rise 20.3%

POWER TAKE-OFF PERFORMANCE (SUPPLEMENTAL TESTS WITH 1000 RPM PTO SHAFT)

Power HP (kW)	Crank shaft speed rpm	Fuel Consumption			Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1158 rpm)					
89.4 (66.7)	2200	5.47 (20.71)	0.427 (0.260)	16.34 (3.22)	
Standard Power Take-off Speed (999 rpm)					
83.8 (62.5)	1898	4.79 (18.15)	0.399 (0.243)	17.48 (3.44)	Air temperature
VARYING POWER AND FUEL CONSUMPTION					
89.4 (66.7)	2200	5.47 (20.71)	0.427 (0.260)	16.34 (3.22)	70°F (21°C)
77.0 (57.5)	2234	4.81 (18.20)	0.436 (0.265)	15.99 (3.15)	Relative humidity
58.1 (43.3)	2246	4.02 (15.20)	0.483 (0.294)	14.44 (2.84)	43%
38.6 (28.8)	2260	3.13 (11.86)	0.566 (0.344)	12.33 (2.43)	Barometer

Location of Test: Silsoe Research Institute, Wrest Park, Silsoe, Bedford, England MK45 4HS

Dates of Test: March to April, 1992

Manufacturer: MASSEY FERGUSON TRACTORS LIMITED, Banner Lane Coventry, Warwickshire, England CV4 9GF

FUEL AND OIL: Fuel No. 2 Diesel Cetane No. 54.5 Specific gravity converted to 60°/60°F (15°/15°C) 0.8400 Fuel weight 6.99 lbs/gal (0.838 kg/l) Oil SAE 15W40 Oil consumption for 10 hours NA Transmission and hydraulic lubricant SAE 15W30 Front axle lubricant SAE 15W30

ENGINE: Make Perkins Diesel Type six cylinder vertical Serial No. YA31240U538147W Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 3.937" × 5.0" (100 mm × 127.0 mm) Compression ratio 16.5 to 1 Displacement 365 cu in (5985 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and centrifugal precleaner Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter two paper elements and sediment bowl Muffler underhood Exhaust vertical Cooling medium temperature control thermostat

CHASSIS: Type front wheel assist Serial No. A06486 Tread width rear 59.7" (1516 mm) to 91.6" (2326 mm) front 63.7" (1617 mm) to 76.5" (1943 mm) Wheel base 103.9" (2640 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.45 (2.33) second 1.85 (2.97) third 2.17 (3.50) fourth 2.77 (4.45) fifth 3.98 (6.41) sixth 5.07 (8.16) seventh 5.93 (9.54) eighth 7.54 (12.14) ninth 8.89 (14.31) tenth 11.32 (18.21) eleventh 16.31 (26.24) twelfth 20.74 (33.38) reverse 2.17 (3.50), 2.77 (4.45), 8.89 (14.31), 11.32 (18.21) Clutch single dry disc operated by foot pedal Brakes multiple wet disc hydraulically operated by foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 1893 engine rpm and 1000 rpm at 1900 engine rpm Unladen tractor mass

DRAWBAR PERFORMANCE FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Fuel Consumption Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—7th (HL1) Gear									
73.4 (54.7)	4860 (21.6)	5.66 (9.10)	2207	6.5	0.523 (0.318)	13.40 (2.64)	174 (79)	63 (17)	30.0 (101.6)
75% of Pull at Maximum Power—7th (HL1) Gear									
57.7 (43.0)	3685 (16.4)	5.87 (9.45)	2249	4.8	0.566 (0.344)	12.39 (2.44)	172 (78)	63 (17)	30.0 (101.6)
50% of Pull at Maximum Power—7th (HL1) Gear									
38.4 (28.6)	2395 (10.7)	6.01 (9.67)	2263	3.2	0.666 (0.405)	10.51 (2.07)	172 (78)	63 (17)	30.0 (101.6)
75% of Pull at Reduced Engine Speed—8th (HH1) Gear									
57.4 (42.8)	3660 (16.3)	5.88 (9.47)	1769	4.6	0.505 (0.307)	13.86 (2.73)	171 (77)	63 (17)	30.0 (101.6)
50% of Pull at Reduced Engine Speed—8th (HH1) Gear									
38.5 (28.7)	2405 (10.7)	6.00 (9.65)	1775	3.2	0.541 (0.329)	12.94 (2.55)	171 (77)	63 (17)	30.0 (101.6)
MAXIMUM POWER IN SELECTED GEARS									
4th (LH2) Gear									
53.4 (39.8)	8230 (36.6)	2.43 (3.91)	2247	15.0	0.621 (0.378)	11.27 (2.22)	172 (78)	64 (18)	30.0 (101.5)
5th (LL3) Gear									
68.8 (51.3)	7285 (32.4)	3.54 (5.70)	2199	12.6	0.554 (0.337)	12.64 (2.49)	172 (78)	59 (15)	30.0 (101.7)
6th (LH3) Gear									
71.2 (53.1)	5620 (25.0)	4.75 (7.64)	2206	8.3	0.534 (0.325)	13.10 (2.58)	172 (78)	59 (15)	30.0 (101.7)
7th (HL1) Gear									
73.4 (54.7)	4860 (21.6)	5.66 (9.10)	2207	6.5	0.523 (0.318)	13.40 (2.64)	174 (79)	63 (17)	30.0 (101.6)
8th (HH1) Gear									
72.8 (54.3)	3730 (16.6)	7.32 (11.78)	2207	4.9	0.538 (0.327)	12.99 (2.56)	172 (78)	59 (15)	30.0 (101.7)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Gear closest to 4.7 mph (7.5 km/h) 6th (LH3) gear	84.0	83.0
Maximum sound level 6th (LH3) gear	84.0	83.0
Transport speed 12th (HH3) gear	83.0	82.0
Bystander

TIRES AND WEIGHT

Rear Tires —No., size, ply & psi (kPa)

Front Tires —No., size, ply & psi (kPa)

Height of Drawbar

Static Weight with Operator—Rear

—Front

—Total

Tested Without Ballast

Two 18.4-34; 6; 16 (110)

Two 14.9-24; 8; 26 (180)

16.9 in (430 mm)

5825 lb (2642 kg)

3580 lb (1624 kg)

9405 lb (4266 kg)

We, the undersigned, certify that this is a true summary of data from OECD Report No. **1386**, Nebraska Summary 129, March 17, 1993.

LOUIS I. LEVITICUS

Engineer-in-Charge

L. L. BASHFORD

R. D. GRISSO

K. VON BARGEN

Board of Tractor Test Engineers

DRAWBAR PERFORMANCE
(Front Drive Disengaged)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr Hp.hr/gal (kg/kW.h) (kW.h/l)		Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—9th (HL2) Gear									
76.0 (56.7)	3375 (15.0)	8.44 (13.59)	2206	6.3	0.519 (0.316)	13.45 (2.65)	172 (78)	48 (9)	29.6 (100.2)
75% of Pull at Maximum Power—9th (HL2) Gear									
59.7 (44.5)	2540 (11.3)	8.81 (14.18)	2255	4.4	0.515 (0.313)	13.60 (2.68)	171 (77)	50 (10)	29.6 (100.1)
50% of Pull at Maximum Power—9th (HL2) Gear									
40.9 (30.5)	1705 (7.6)	8.99 (14.47)	2268	3.0	0.616 (0.375)	11.37 (2.24)	171 (77)	50 (10)	29.6 (100.1)
75% of Pull at Reduced Engine Speed—10th (HH2) Gear									
59.7 (44.5)	2540 (11.3)	8.81 (14.18)	1773	4.5	0.477 (0.290)	14.67 (2.89)	171 (77)	50 (10)	29.5 (100.0)
50% of Pull at Reduced Engine Speed—10th (HH2) Gear									
41.1 (30.7)	1715 (7.6)	8.99 (14.47)	1783	3.1	0.547 (0.333)	12.74 (2.51)	171 (77)	50 (10)	29.5 (100.0)
MAXIMUM POWER IN SELECTED GEARS									
5th (LL3) Gear									
57.8 (43.1)	6185 (27.5)	3.50 (5.63)	2250	15.0	0.569 (0.346)	12.28 (2.42)	172 (78)	50 (10)	29.5 (100.0)
6th (LH3) Gear									
67.7 (50.5)	5725 (25.5)	4.43 (7.14)	2209	13.8	0.567 (0.345)	12.33 (2.43)	172 (78)	48 (9)	29.6 (100.2)
7th (HL1) Gear									
71.9 (53.6)	5035 (22.4)	5.35 (8.61)	2205	11.0	0.547 (0.333)	12.79 (2.52)	171 (77)	48 (9)	29.6 (100.2)
8th (HH1) Gear									
74.2 (55.3)	3955 (17.6)	7.03 (11.32)	2197	7.7	0.519 (0.316)	13.45 (2.65)	172 (78)	48 (9)	29.6 (100.2)
9th (HL2) Gear									
76.0 (56.7)	3375 (15.0)	8.44 (13.59)	2206	6.3	0.519 (0.316)	13.45 (2.65)	172 (78)	48 (9)	29.6 (100.2)
10th (HH2) Gear									
75.0 (55.9)	2565 (11.4)	10.97 (17.65)	2210	4.7	0.518 (0.315)	13.50 (2.66)	172 (78)	48 (9)	29.6 (100.1)

THREE POINT HITCH PERFORMANCE (OECD STATIC TEST)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range:

4475 lbs (19.9 kN)

i) Opening pressure of relief valve:

NA

Sustained pressure of the open
relief valve:

3480 psi (240 bar)

ii) Pump delivery rate at minimum
pressure:

7.6 GPM (28.8 l/min)

iii) Pump delivery rate at maximum
hydraulic power:

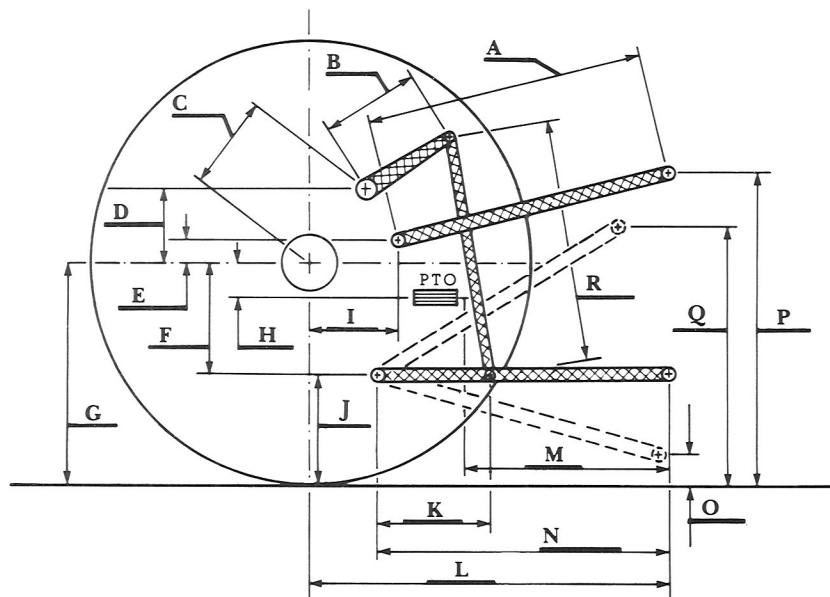
7.1 GPM (26.8 l/min)

Delivery pressure:

3050 psi (210 bar)

Power:

12.6 Hp (9.38 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	31.6	803
B	10.5	267
C	12.0	304
D	9.2	233
E	8.1	205
F	8.3	212
G	30.3	770
H	5.3	135
I	7.3	186
J	22.0	558
K	21.5	546
L	38.7	984
M	21.5	546
N	40.0	1016
O	7.6	193
P	46.0	1168
Q	33.8	858
R	28.0	710